

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application.

1-15. (Canceled)

16. (Currently Amended) ~~A screen-motion image quality measuring/evaluating method~~

~~[[of]] for measuring and evaluating, based on the movement of a test pattern~~
~~displayed on the screen of a display device to be evaluated, the a quality of [[a]]~~
~~motion image images on [[the]] a screen, the method comprising the steps of:~~

~~[[(1)]] capturing, by an image sensor, a plurality of first images an image of~~
~~[[the]] a test pattern ~~more than once~~ while the test pattern is moved~~
~~on the screen at a predetermined pattern velocity and while the~~
~~visual field of an image sensor is fixed on the screen, a visual field~~
~~of the image sensor being fixed with respect to the screen while the~~
~~first images are captured;~~

~~determining the pattern velocity based on the first images;~~

~~setting a sensor velocity corresponding to the pattern velocity;~~

~~capturing a second image of the test pattern while the test pattern is~~

~~moving on the screen at the pattern velocity and the image sensor~~
~~is moving at the sensor velocity; and~~

~~evaluating the quality of motion images on the screen based on the~~
~~second image.~~

~~(2) observing the moving velocity, on the detection screen, of the test pattern image thus captured; and~~

~~(3) calculating and determining the moving velocity of the image sensor visual field corresponding to the moving velocity of the test pattern image on the detection screen, and evaluating the quality of a motion image on the screen based on the image of the test pattern captured at the velocity thus determined.~~

17. (New) The method of claim 16, further comprising:
time-stamping the first images;

determining a distance traveled by the first images within the visual field;

and

calculating the pattern velocity based on the distance and a time difference of the first images.

18. (New) The method of claim 17, further comprising:

determining the distance based on a luminance characteristic of the first images.

19. (New) The method of claim 18, further comprising:

determining a number of sensor elements of the image sensor traversed
by the first images.

20. (New) A method for evaluating image quality of a screen, comprising:
capturing by an image sensor a first set of images of a test pattern
rendered on a screen while the test pattern is traversing the screen
at a pattern velocity;
setting a sensor velocity based on a luminance characteristic of the first
set of images, so as to match the movement of the test pattern; and
capturing a second set of images of the test pattern so as to evaluate the
image quality of the screen, the second set of images being
captured while the test pattern is moving at the pattern velocity and
the image sensor is moving at the sensor velocity.

21. (New) The method of claim 20, further comprising:
extracting the luminance characteristic from each of the first set of images
by determining a luminance distribution on each of the first set of
images.

22. (New) The method of claim 21, further comprising:
moving the image sensor at different sensor velocities while capturing the
first set of images;

determining a minimum blurred edge width from the luminance
distributions of the first set of images; and
selecting, as the sensor velocity, the one of the different sensor velocities
corresponding to the minimum blurred edge width.

23. (New) The method of claim 22, further comprising:
moving the test pattern on the screen at different pattern velocities;
determining a different sensor velocity for each respective moving velocity;
and
evaluating the image quality for each of the different pattern velocities.

24. (New) The method of claim 23, further comprising:
determining a system blurred edge width by analyzing the luminance
distributions of the first set of images;
calculating net blurred edge widths for respective pattern velocities by
subtracting the system blurred edge widths from the respective
minimum blurred edge widths;
plotting the net blurred edge widths against the different pattern velocities;
normalizing the net blurred edge widths by the respective pattern
velocities; and

evaluating the image quality of the screen based on the normalized net blurred edge widths.

25. (New) The method of claim 24, wherein each of the system blurred edge width, the minimum blurred edge width, and the net blurred edge width is represented by an sensor element count indicative of a number of image elements having luminance values between a first luminance threshold and a second luminance threshold.
26. (New) The method of claim 20, wherein the sensor velocity comprises an angular velocity.
27. (New) The method of claim 21, further comprising:
fixing a visual field of the image sensor with respect to the screen while the first set of images is captured;
selecting a first image and a second image from the first set of images;
calculating a scroll velocity by comparing the luminance distributions on the first image and the second image; and
computing the sensor velocity from the scroll velocity.
28. (New) The method of claim 27, further comprising:

time-stamping the first set of images;

computing a luminance distribution difference between the first image and
the second image; and

calculating the scroll velocity based on the luminance distribution
difference, a time difference between the first image and the
second image, and a sensor element dimension.

29. (New) The method of claim 28, further comprising:
- determining, from the luminance distribution of the first image, a first set of
image elements that have luminance values above a preset
luminance threshold;
- determining, from the luminance distribution of the second image, a
second set of image elements that have luminance values above
the preset luminance threshold; and
- calculating the luminance distribution difference by comparing the first and
second sets of image elements.

30. (New) A system evaluating an image quality of a screen, the system comprising:
- a moveable image sensor configured to capture a first set of images of a
moving test pattern rendered on the screen, the moving test pattern
traversing the screen at a pattern velocity, the moveable image
sensor further configured to capture a second set of images of the

moving test pattern while the image sensor is moving at a sensor velocity; and

a control and processing unit configured to monitor a luminance characteristic of the first set of images, set the sensor velocity based on the luminance characteristic of the first set of images so as to match movements of the moving test pattern, and evaluate the image quality of the screen based on the second set of images.

31. (New) The system of claim 30, further comprising a driving unit configured to move the moveable image sensor at the sensor velocity.

32. (New) The system of claim 31, wherein the driving unit further comprises an electric motor configured to rotate the moveable image sensor at an angular velocity.

33. (New) The system of claim 32, wherein the moveable image sensor further comprises:

a rotatable mirror driven by the electric motor; and

a sensor array configured to capture through the rotatable mirror the images of the moving test pattern.

34. (New) The system of claim 30,
wherein the control and processing unit is further configured to set the
moveable image sensor at different sensor velocities while
capturing the first set of images and extract luminance distributions
from the first set of images, and
wherein the control and processing unit is further configured to determine
minimum blurred edge widths based on the luminance distributions
extracted from the first set of images and determine the sensor
velocity based on the minimum blurred edge widths.
35. (New) The system of claim 30,
wherein the control and processing unit is further configured to select a
first image and a second image from the first set of images,
determine a luminance distribution difference between the first
image and the second image, and compute the sensor velocity
based on the luminance distribution difference.